

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST-CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON THE DATE INDICATED BELOW.

BY: Dan C. Marks Date: April 29, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:
Masamichi Aoki.

Conf. No.: 6882

Group Art Unit: 2852

Patent No.: 6,879,798 B2

Issued: April 12, 2005

Appln. No.: 10/634,517

Filed: August 4, 2003

Title: IMAGE FORMING APPARATUS

Attorney Docket No.:

9448-143 (G0272US)

Attention: Certificate of Correction Branch

**REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR APPLICANT'S MISTAKE (37 C.F.R. § 1.323)**

1. It is noted that errors appear in this patent of a clerical nature or character, as more fully described below. The errors occurred in good faith. Correction thereof does not involve such changes in the patent as would constitute new matter or would require re-examination. A certificate of correction is requested.

Applicant attempted to correct the errors in the specification and claims in the Correction to Amendment After Allowance and Substitute Amendment After Allowance filed on January 13, 2005. The Examiner denied entry of the Substitute Amendment After Allowance because it was filed after payment of the issue fee. Copies of the Correction to Amendment After Allowance and Substitute Amendment After Allowance detailing the requested corrections are attached.

The correction to the drawings was requested in the Amendment After Allowance timely filed on December 21, 2004. However, the replacement pages were not included in the issued patent.

2. Attached hereto, in duplicate, is Form PTO-1050, with at least one copy being suitable for printing.

4. Please send the Certificate to:

William W. Schwarze
AKIN GUMP STRAUSS HAUER & FELD LLP
One Commerce Square
2005 Market Street, Suite 2200
Philadelphia, PA 19103-7013
Telephone: 215-965-1270

5. Please pay the fee required by 37 C.F.R. § 1.20(a)-\$100.00, as follows:

☒ Attached is a check in the amount of **\$100.00**.

☒ Authorization is hereby made to charge to Deposit Account No. **50-1017**
(Billing No. **200285.0705**).

☒ Charge any additional fees required by this paper or credit any overpayment in the above deposit account.

A duplicate of this paper is attached.

Respectfully submitted,

April 29, 2005
(Date)

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WWS/DCM
Enclosures

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO : 6,879,798 B2
 DATED : April 12, 2005
 INVENTOR(S) : Masamichi Aoki

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, in the Abstract, penultimate line: " $A = \{(D1 - D2)/D1\} \times 100\%$ " should read -- $A = \{(D2 - D1)/D1\} \times 100$ --;

At column 1, line 57: " $A = \{(D1 - D2)/D1\} \times 100$ " should read -- $A = \{(D2 - D1)/D1\} \times 100$ --;

At column 8, line 36: "35 to 55%" should read -- 35 to 55 --;

At column 9, line 37: "fulfil" should read -- fulfill --;

At column 9, lines 38 and 39: "35 to 55%" should read -- 35 to 55 --;

At column 9, lines 42 and 43: "35 to 55%" should read -- 35 to 55 --;

At column 10, line 28: " $A = \{(D1 - D2)/D1\} \times 100\%$ " should read -- $A = \{(D2 - D1)/D1\} \times 100$ --;

At column 10, line 39, "the" should be replaced with -- a --;

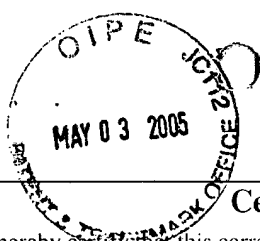
In the drawings: please replace drawing sheets 3/5, 4/5 and 5/5 with the attached replacement sheets 3/5, 4/5 and 5/5.

MAILING ADDRESS OF SENDER: William W. Schwarze, Esquire
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PATENT NO. 6,879,798 B2

No. of additional copies





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Certificate of Facsimile Transmission 37 C.F.R. §1.8(a)

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office at (703) 703-746-4000 on the date shown below.

Name of Person Signing Certificate: _____

Renee Conti

January 13, 2005

Date

Renee Conti

Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:
Masamichi AOKI

: Allowed: September 27, 2004

:

Conf. No.: 6882

: Group Art Unit: 2852

:

Appln. No.: 10/634,517

: Examiner: Susan Shuk Yin Lee

:

Filing Date: August 4, 2003

: Attorney Docket No.: 9448-143US [G0272US]

:

Title: IMAGE FORMING APPARATUS

CORRECTION TO AMENDMENT AFTER ALLOWANCE
UNDER 37 C.F.R. § 1.312

Further to the Amendment After Allowance filed December 21, 2004, several errors were noticed in the amendments made to the specification, claims and abstract. Therefore, it is requested that the attached Substitute Amendment After Allowance Under 37 C.F.R. § 1.312 be entered in lieu of the Amendment After Allowance filed December 21, 2004.

In particular, it was noticed that the numerator of the fraction representing the compressibility value A was reversed in several instances, namely in the second full paragraph at page 2, in the abstract, and in claim 1. Thus, in these three instances, the numerator was given as D1-D2, instead of the correct numerator which is D2-D1, as correctly defined in the paragraph bridging pages 11 and 12 of the specification. One skilled in the art will readily recognize that D1-D2 would yield a negative number, since D1 is the aerated bulk density and D2 is the packed bulk density. It is submitted that these corrections merely conform all of the values for A to that of equation (2) at pages 11-12 of the specification, so that no more than cursory review is required. This error is

sincerely regretted, and entry of the enclosed Substitute Amendment is respectfully requested.

Respectfully submitted,

MASAMICHI AOKI

January 13, 2005
(Date)

By:

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Enclosure – Substitute Amendment After Allowance Under 37 C.F.R. § 1.312

MAY 03 2005

Certificate of Facsimile Transmission 37 C.F.R. §1.8(a)

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office at (703) 703-746-4000 on the date shown below.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:
Masamichi AOKI

: Allowed: September 27, 2004

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: Attorney Docket No.: 9448-143US [G0272US]

:

Title: IMAGE FORMING APPARATUS

SUBSTITUTE AMENDMENT AFTER ALLOWANCE UNDER 37 C.F.R. § 1.312

Subsequent to the Notice of Allowance dated September 27, 2004 (Paper No. 09202004), and simultaneously with the payment of the issue fee, which is being submitted concurrently herewith, please amend the above application, without prejudice, as follows:

Amendments to the Drawings:

Submitted herewith are replacement pages for sheets 3/5, 4/5 and 5/5 of the drawings. In each of Figs. 4 through 8, the dimensions for resilience have been inserted as “%” as indicated throughout the specification, for example at page 2, second and third paragraphs from the bottom, and at page 14, second and third paragraphs under “Second Embodiment.”

Amendments to the Specification:

Please amend the second full paragraph at page 2 to read as follows:

An image forming apparatus includes an image bearing body, a developing unit, and a transfer unit. The image bearing body bears an electrostatic latent image formed thereon. The developing unit supplies a developer material to the image bearing body to develop the electrostatic latent image into a visible image. The transfer unit transfers the visible image onto a print medium. The developer-removing blade has a longitudinally extending edge in contact with the image bearing body with a line pressure in the range of 3 to 8 gf/mm. The edge removes an amount of residual developer material on the image bearing body. The developer material has substantially spherical particles and has a compressibility ~~in percentage (%)~~ given by $A = \{(D1 - D2)/D1\} \times 100$ $A = \{(D2 - D1)/D1\} \times 100$, where D1 is an aerated bulk density or bulk density before the developer material is compressed, and D2 is a packed bulk density or bulk density a predetermined time after the developer material begins to be compressed.

Please amend the paragraph bridging pages 11 and 12 of the specification to read as follows:

The inventor found some sort of measurement indicative of how easily the particles of the toner 16 form a most packed structure. The measurement is the difference between aerated bulk density and packed bulk density of the toner 16. Aerated bulk density is one when a sufficient amount of air enters among the particles of toner 16. Packed bulk density is one when the particles of toner 16 held in a container ~~is~~ are subjected to tapping so that there is less air among the toner particles as compared to the aerated toner particles. The difference between aerated bulk density and packed bulk density is referred to as compressibility. The compressibility of toner ~~in percentage (%)~~ is given by Equation (2).

$$A = \{(D2 - D1)/D1\} \times 100 \quad \dots(2)$$

where A is compressibility, D1 is aerated bulk density, i.e., bulk density before the toner begins to be packed, and D2 is packed bulk density, i.e., bulk density a predetermined time after the toner begins to be packed.

Please amend the first full paragraph at page 14 of the specification to read as follows:

From the aforementioned test results, toners having compressibility in the range of 35 to 55 [%] are difficult to flip through the gaps between the cleaning blade 19 and the photoconductive drum 11.

Please amend the paragraph bridging pages 15 and 16 of the specification to read as follows:

The flipping through of toner can be prevented and cleaning is improved by a combination of toner 16 and the cleaning blade 19 that ~~fulfil~~ fulfill the following conditions. That is, the toner has compressibility in the range of 35 to 55 [%] and the cleaning blade has resilience in the range of 15 to 40% and is pressed against the photoconductive drum under a line pressure in the range of 3 to 8 gf/mm. Preferably, toner 16 has compressibility in the range of 35 to 55 [%] and the cleaning blade has resilience in the range of 20 to 35%.

Please amend the Abstract of the Disclosure to read as follows:

An image forming apparatus includes an image bearing body, a developing unit, and a transfer unit. The image bearing body bears an electrostatic latent image formed thereon. The developing unit supplies a developer material to the image bearing body to develop the electrostatic latent image into a visible image. The transfer unit transfers the visible image onto a print medium. The developer-removing blade has a longitudinally extending edge in contact with the image bearing body with a line pressure in the range of 3 to 8 gf/mm, the edge removing ~~[[a]]~~ an amount of residual developer material on the image bearing body. The developer material has substantially spherical particles and has compressibility in the range of 30 to 55. The compressibility is given by $A = \{(D1 - D2)/D1\} \times 100\%$ $A = \{(D2 - D1)/D1\} \times 100$, where D1 is aerated bulk density and D2 is packed bulk density.

Amendments to and Listing of the Claims:

Please amend claims 1 and 4, so that the claims read as follows:

1. (Currently amended) An image forming apparatus, comprising:
an image bearing body that bears an electrostatic latent image formed thereon;
a developing unit that supplies a developer material to said image bearing body to develop the electrostatic latent image into a visible image;
a transfer unit that transfers the visible image onto a print medium;
a developer-removing blade in contact with said image bearing body to remove a residual amount of the developer material on said image bearing body;
wherein the developer material has substantially spherical particles and has a compressibility in the range of 30 to 55, the compressibility ~~in percentage~~ being given by

$$A=\{(D2-D1)/D1\}\times 100 \quad A=\{(\cancel{D1}-D2)/D1\}\times 100 (\%)$$

where A is compressibility, D1 is aerated bulk density, and D2 is packed bulk density.

2. (Original) The image forming apparatus according to Claim 1, wherein said developer-removing blade has a longitudinally extending edge in contact with said image bearing body.
3. (Currently amended) The image forming apparatus according to Claim 1, wherein said developer-removing blade has a resilience in the range of 15 to 40% and is in contact with said image bearing body with ~~the~~ a line pressure in the range of 3 to 8 gf/mm.
4. (Currently amended) The image forming apparatus according to Claim 1, wherein said developer-removing blade has a ~~resiliency~~ resilience in the range of 20 to 35% and is in contact with said image bearing body with a line pressure in the range of 3 to 8 gf/mm.

REMARKS

Claims 1-4 are pending and allowed in the application.

The above amendments are requested in order to make the units of compressibility and resilience consistent and accurate throughout the specification, claims and drawings. In addition, several typographical and grammatical errors have been corrected. It is submitted that these amendments require only a cursory review by the Examiner, and entry of the amendments is respectfully solicited.

During a review of the application after allowance, it was noticed that the units of "resilience" were not given in Figs. 4-8. Accordingly, replacement sheets of the drawings for Figs. 4-8 are submitted herewith to indicate that resilience has the units of percentage, namely "%." These amendments are supported, for example, in the description of Figs. 4-8 in the middle two full paragraphs at page 14 of the specification, and are used consistently throughout the specification. Also enclosed are copies of two websites and an English translation of one of the websites which is in Japanese, showing that the usual units for resilience are percentage.

In addition, during review of the application after allowance, it was noticed that compressibility was inadvertently labeled at some instances in the specification and claims as having units in percentage (%). In fact, compressibility is a dimensionless quantity, as indicated for example in the original drawings and in the second to last paragraph at page 14 of the specification, as well as other instances in the specification. Thus, compressibility is actually a ratio, but the ratio has been multiplied by 100 in order to make a more convenient expression of the value A, since the value of $(D2-D1)/D1$ is usually smaller than 1. Accordingly, wherever the compressibility was referred to in the present specification as a percentage, the percentage indication has been deleted to make the units consistent with the remainder of the specification and drawings.

It is further noted that compressibility was expressed in the Japanese priority application without the percentage, namely as a dimensionless quantity. Attached for the Examiner's information are copies of the corresponding pages of the Japanese priority application and translations thereof, which correspond to those portions of the

specification and claims which are being amended by the present amendment. As can be seen, the value A was always stated without the percentage sign or an indication of percentage.

Accordingly, no new matter is being added by these amendments, and the amendments are merely to conform the specification, claims and drawings, so that they are consistent throughout, and to correct typographical and grammatical errors.

Respectfully submitted,

MASAMICHI AOKI

January 13, 2005
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Enclosures - 3 Replacement Sheets of drawings 3/5, 4/5, 5/5

The following are not enclosed again – same as submission of December 21, 2004:

Website of Wallace Data Computer - R3

Website of Geltec

Pages of Japanese priority application no. 2003-027 864 with English translation of claims 1 and paragraphs [0007], [0041], [0045], [0055], [0061], [0064] and Abstract